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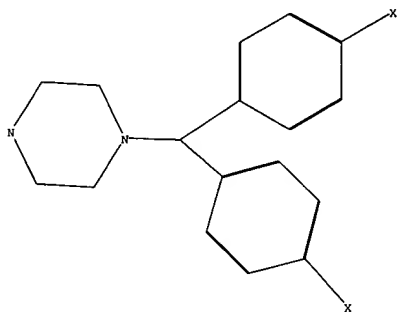
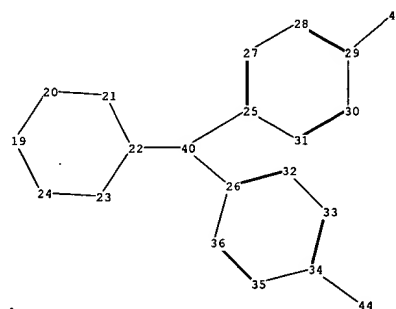
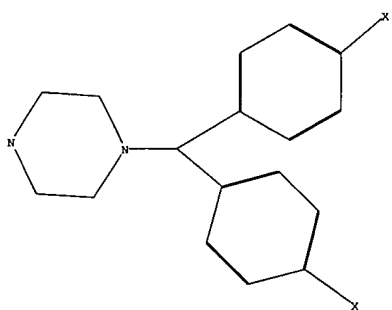
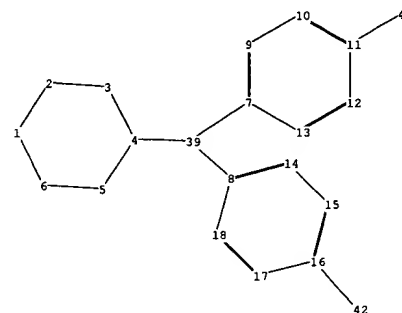
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7/22/02

non  
checked  
speciesspecies  
(v)

chain nodes :

39 40 41 42 43 44

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25  
26 27 28 29 30 31 32 33 34 35 36

chain bonds :

4-39 7-39 8-39 11-41 16-42 22-40 25-40 26-40 29-43 34-44

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-13 7-9 8-18 8-14 9-10 10-11 11-12 12-13 14-15  
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-31 25-27 26-36 26-32  
27-28 28-29 29-30 30-31 32-33 33-34 34-35 35-36

exact/norm bonds :

1-2 1-6 2-3 3-4 4-5 4-39 5-6 19-20 19-24 20-21 21-22 22-23 22-40 23-24

exact bonds :

7-39 8-39 11-41 16-42 25-40 26-40 29-43 34-44

normalized bonds :

7-13 7-9 8-18 8-14 9-10 10-11 11-12 12-13 14-15 15-16 16-17 17-18 25-31  
25-27 26-36 26-32 27-28 28-29 29-30 30-31 32-33 33-34 34-35 35-36

isolated ring systems :

containing 7 : 25 :

G1:C,N

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom  
12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom  
22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom  
32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 39:CLASS 40:CLASS 41:CLASS 42:CLASS  
43:CLASS 44:CLASS

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YOU HAVE REQUESTED DATA FROM 4 ANSWERS - CONTINUE? Y/(N):y

L10 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:411089 CAPLUS

DOCUMENT NUMBER: 136:167350

TITLE: Synthesis of

N,N'-di(3-aminodithiocarboxylic)propionyl piperazine

AUTHOR(S): Guo, Bao-guo; Zhang, Yong-xin; Liu, Ying

CORPORATE SOURCE: Dept. of Chem., Shangqiu Teachers College, Shangqiu, 476000, Peop. Rep. China

SOURCE: Shangqiu Shizhuan Xuebao (2001), 17(2), 89-92

CODEN: SSXUFU; ISSN: 1008-2662

PUBLISHER: Shangqiu Shizhuan Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

OTHER SOURCE(S): CASREACT 136:167350

IT 396101-68-1P

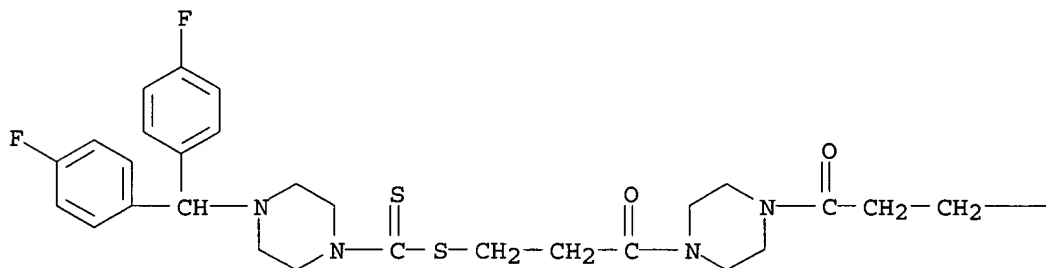
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(synthesis of N,N'-di(aminothiocabonylthio)propionylpiperazines)

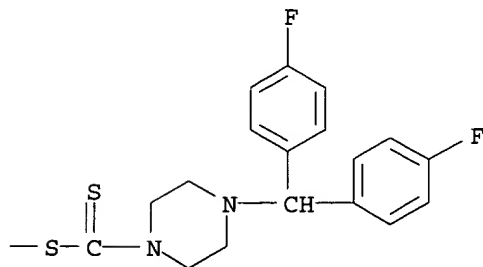
RN 396101-68-1 CAPLUS

CN 1-Piperazinecarbodithioic acid, 4-[bis(4-fluorophenyl)methyl]-, 1,4-piperazinediylbis(3-oxo-3,1-propanediyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



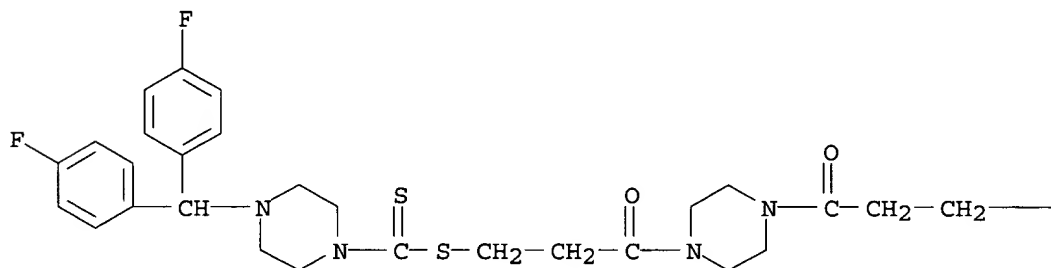
PAGE 1-B



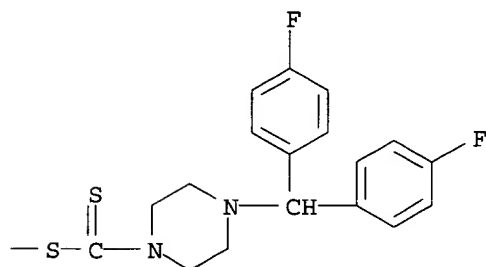
L10 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:368470 CAPLUS  
 DOCUMENT NUMBER: 136:167349  
 TITLE: Synthesis and anti-tumor activities of  
 1,4-bis[3-(amino-  
 dithiocarboxy)propionyl]piperazine derivatives  
 AUTHOR(S): Guo, Baoguo; Ge, Zemei; Cheng, Tieming; Li, Runtao  
 CORPORATE SOURCE: School of Pharmaceutical Sciences, Beijing  
 University, Beijing, 100083, Peop. Rep.  
 SOURCE: China  
 Yaoxue Xuebao (2001), 36(3), 185-187  
 CODEN: YHHPAL; ISSN: 0513-4870  
 PUBLISHER: Yaoxue Xuebao Bianjibu  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese  
 OTHER SOURCE(S): CASREACT 136:167349  
 IT 396101-68-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (synthesis and anti-tumor activities of  
 1,4-bis[3-(amino-dithiocarboxy)propionyl]piperazine derivs.)  
 RN 396101-68-1 CAPLUS  
 CN 1-Piperazinecarbodithioic acid, 4-[bis(4-fluorophenyl)methyl]-,  
 1,4-piperazinediylbis(3-oxo-3,1-  
 propanediyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1988:492454 CAPLUS  
 DOCUMENT NUMBER: 109:92454  
 TITLE: Cinnamylamines useful as radical scavengers, etc., a  
 process for their preparation,

and pharmaceutical compositions containing them

INVENTOR(S): Menta, Ernesto; Spinelli, Silvano; Gandolfi, Carmelo  
A.; Frigerio, Marco; Tofanetti,  
Odoardo; Tognella, Sergio

PATENT ASSIGNEE(S): Boehringer Biochemia Robin S.p.A., Italy

SOURCE: Eur. Pat. Appl., 19 pp.  
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 266549	A1	19880511	EP 1987-114175	19870929
EP 266549	B1	19910619		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AT 64589	E	19910715	AT 1987-114175	19870929
PRIORITY APPLN. INFO.:			IT 1986-21857	19860930
			EP 1987-114175	19870929

OTHER SOURCE(S): MARPAT 109:92454

IT 115688-65-8P 115688-66-9P 115688-76-1P

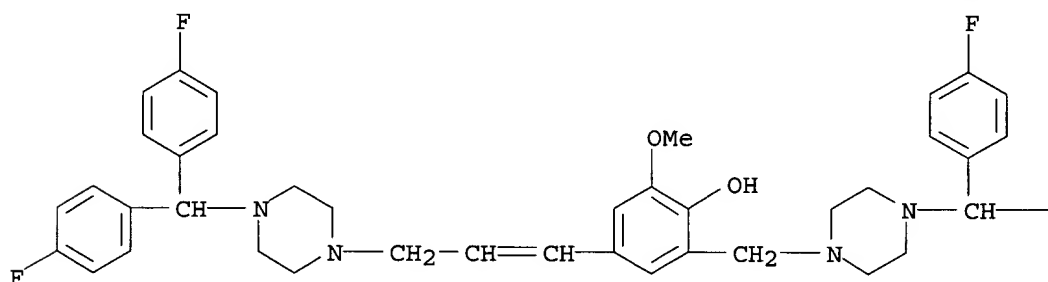
RL: BAC (Biological activity or effector, except adverse); SPN  
(Synthetic preparation); BIOL (Biological  
study); PREP (Preparation)  
(prepn. of, as drug)

RN 115688-65-8 CAPLUS

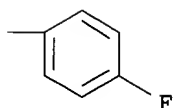
CN Phenol,

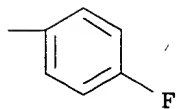
2-[[4-[bis(4-fluorophenyl)methyl]-1-piperazinyl]methyl]-4-[3-[4-[bis(4-fluorop  
henyl)methyl]-1-  
piperazinyl]-1-propenyl]-6-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



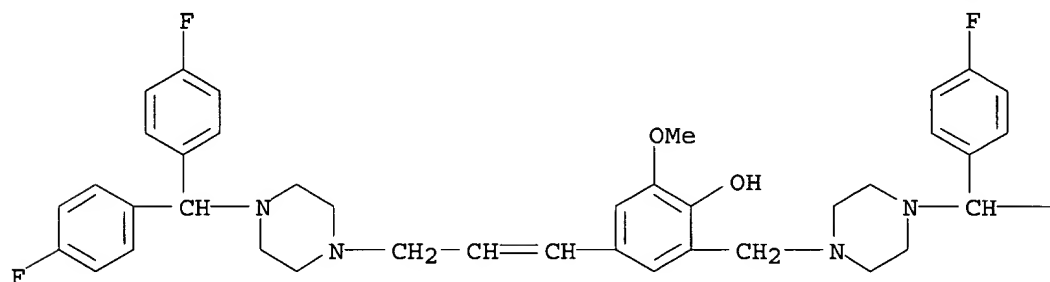


RN 115688-66-9 CAPLUS

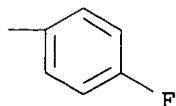
CN Phenol,

2-[[4-[bis(4-fluorophenyl)methyl]-1-piperazinyl)methyl]-4-[3-[4-[bis(4-fluorophenyl)methyl]-1-

piperazinyl]-1-propenyl]-6-methoxy-, tetrahydrochloride (9CI) (CA INDEX NAME)



● 4 HCl



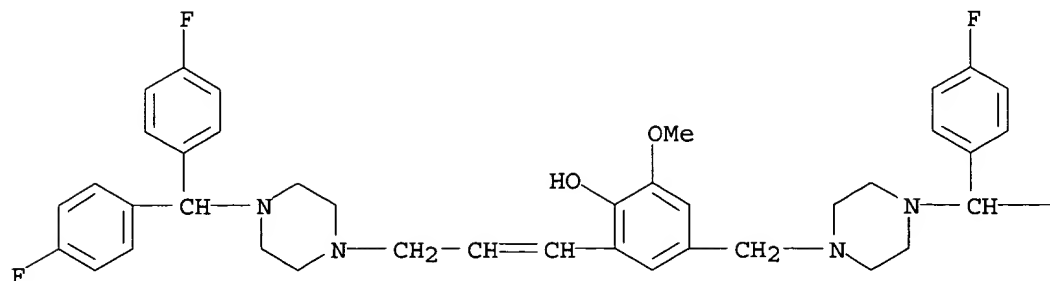
RN 115688-76-1 CAPLUS

CN Phenol,

4-[[4-[bis(4-fluorophenyl)methyl]-1-piperazinyl)methyl]-2-[3-[4-[bis(4-fluorophenyl)methyl]-1-

piperazinyl]-1-propenyl]-6-methoxy-, tetrahydrochloride (9CI) (CA INDEX NAME)

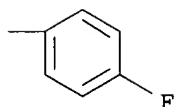
PAGE 1-A



● 4 HCl

PAGE 1-B

*m = 1*  
*X1 = bond*  
*Z = alkylene (CH2CH2CH2)*  
*Y1 = bond*  
*Z = subst. arylene*  
*X1 = alkylene (CH2)*  
*X = bond*



L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 1985:78912 CAPLUS  
 DOCUMENT NUMBER: 102:78912  
 TITLE: Bis(piperazinyl- or -homopiperazinyl)alkanes  
 INVENTOR(S): Devlin, John P.; McNeil, Daniel W.; Keirns, James J.; Barsumian, Edward L.  
 PATENT ASSIGNEE(S): Boehringer Ingelheim Ltd., USA  
 SOURCE: Eur. Pat. Appl., 53 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 122488	A1	19841024	EP 1984-102979	19840317
EP 122488	B1	19890607		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 43843	E	19890615	AT 1984-102979	19840317

FI 8401081	A	19840922	FI 1984-1081	19840319
FI 80269	B	19900131		
FI 80269	C	19900510		
DK 8401601	A	19840922	DK 1984-1601	19840320
DK 166022	B	19930301		
DK 166022	C	19930802		
NO 8401078	A	19840924	NO 1984-1078	19840320
NO 162907	B	19891127		
NO 162907	C	19900307		
AU 8425891	A1	19840927	AU 1984-25891	19840320
AU 568122	B2	19871217		
HU 34016	O	19850128	HU 1984-1102	19840320
HU 191599	B	19870330		
DD 219642	A5	19850313	DD 1984-261058	19840320
ES 530762	A1	19850616	ES 1984-530762	19840320
ZA 8402037	A	19851224	ZA 1984-2037	19840320
CA 1218652	A1	19870303	CA 1984-450025	19840320
PL 141127	B1	19870630	PL 1984-246774	19840320
IL 71291	A1	19871130	IL 1984-71291	19840320
CS 254971	B2	19880215	CS 1984-1960	19840320
JP 59176265	A2	19841005	JP 1984-54152	19840321
ES 535438	A1	19850916	ES 1984-535438	19840827
ES 535439	A1	19850916	ES 1984-535439	19840827
ES 535440	A1	19850916	ES 1984-535440	19840827
SU 1568887	A3	19900530	SU 1986-4027076	19860312
SU 1574174	A3	19900623	SU 1986-4027087	19860312
CS 254998	B2	19880215	CS 1986-5529	19860721
PRIORITY APPLN. INFO.:			US 1983-477008	19830321
			EP 1984-102979	19840317
			CS 1984-1960	19840320

IT 94637-59-9P

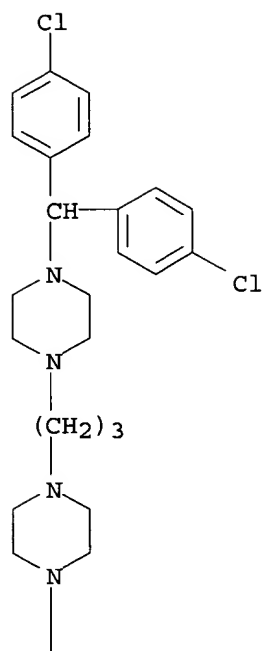
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, as antiallergy-antiinflammatory agent)

RN 94637-59-9 CAPLUS

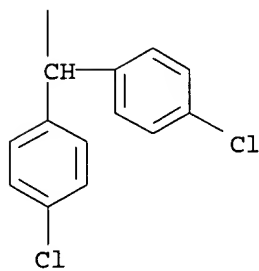
CN Piperazine, 1,1'-(1,3-propanediyl)bis[4-[bis(4-chlorophenyl)methyl]-,  
dihydrochloride (9CI) (CA INDEX  
NAME)



PAGE 1-A



PAGE 2-A



● 2 HCl

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(FILE 'HOME' ENTERED AT 16:04:22 ON 22 JUL 2002)

FILE 'REGISTRY' ENTERED AT 16:04:38 ON 22 JUL 2002

FILE 'STNGUIDE' ENTERED AT 16:05:59 ON 22 JUL 2002

FILE 'REGISTRY' ENTERED AT 16:08:35 ON 22 JUL 2002

L1               STRUCTURE UPLOADED

L2               1 S L1

L3               5 S L1 FULL

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 16:09:40 ON 22 JUL 2002

L4               2 S L3

FILE 'REGISTRY' ENTERED AT 16:13:41 ON 22 JUL 2002

L5               STRUCTURE UPLOADED

L6               50 S L5

L7               STRUCTURE UPLOADED

L8               0 S L7

L9               0 S L7 FULL

L10              1742 S L5 FULL

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 16:17:35 ON 22 JUL 2002

L11              9970 S L10

L12              21 S L11 AND LINKER

L13              20 DUP REM L12 (1 DUPLICATE REMOVED)

L14              123 S L11 AND (BIS OR DIMER OR DIMERIC)

L15              17 S L11 AND (DIMER OR DIMERIC)

L16              22 S L11 AND (COVALENT? (3A) LINK?)

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L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1992:194367 CAPLUS  
DOCUMENT NUMBER: 116:194367  
TITLE: Preparation of  
hydrocarbylenebis[(benzothiazepinyloxy)carbonyl] derivatives as  
vasodilators  
INVENTOR(S): IDB Holding S.p.A.; Nizzola, Rita; Malandrino,  
Salvatore  
PATENT ASSIGNEE(S): IDB Holding S.p.A., Italy  
SOURCE: Eur. Pat. Appl., 9 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 467537	A2	19920122	EP 1991-305594	19910620
EP 467537	A3	19920219		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 5120730	A	19920609	US 1991-713788	19910612
CA 2044834	AA	19911222	CA 1991-2044834	19910618
PRIORITY APPLN. INFO.:			GB 1990-13878	19900621
OTHER SOURCE(S):		MARPAT 116:194367		

L4 ANSWER 2 OF 2 USPATFULL

ACCESSION NUMBER: 92:47056 USPATFULL  
TITLE: Benzothiazepine esters, their preparation and  
formulations for therapeutic use  
INVENTOR(S): Pifferi, Giorgio, Milan, Italy  
Nizzola, Rita, Milan, Italy  
Malandrino, Salvatore, Milan, Italy  
PATENT ASSIGNEE(S): IDB Holding SpA, Milan, Italy (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5120730		19920609
APPLICATION INFO.:	US 1991-713788		19910612 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1990-13878	19900621
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Bond, Robert T.	
LEGAL REPRESENTATIVE:	Kirschstein, Ottinger, Israel & Schiffmiller	
NUMBER OF CLAIMS:	8	
EXEMPLARY CLAIM:	1	
LINE COUNT:	360	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

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YOU HAVE REQUESTED DATA FROM 2 ANSWERS - CONTINUE? Y/(N):y

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

IT 140382-43-0P 140382-44-1P 140382-45-2P 140461-00-3P  
140461-01-4P

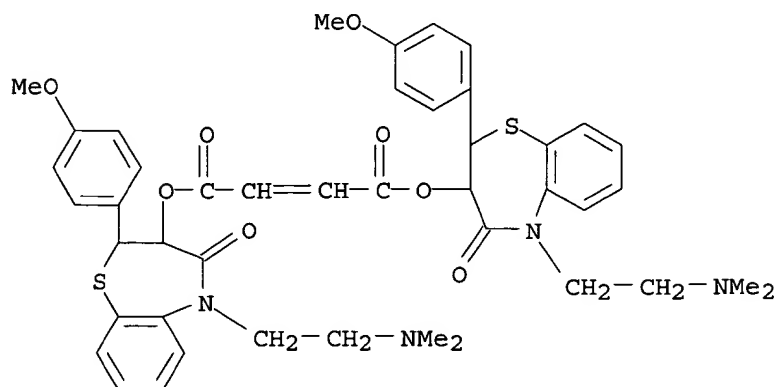
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as vasodilator)

RN 140382-43-0 CAPLUS

CN 2-Butenedioic acid (2E)-,

bis[(2R,3R)-5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,5-benzothiazepin-3-yl] ester, rel- (9CI) (CA INDEX NAME)

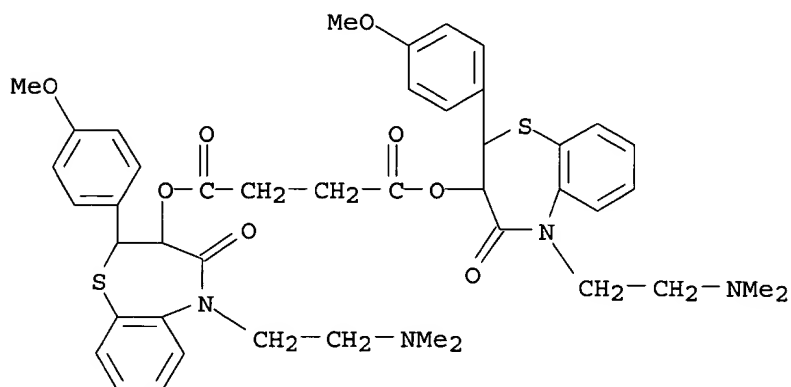


RN 140382-44-1 CAPLUS

CN Butanedioic acid,

bis[5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,5-

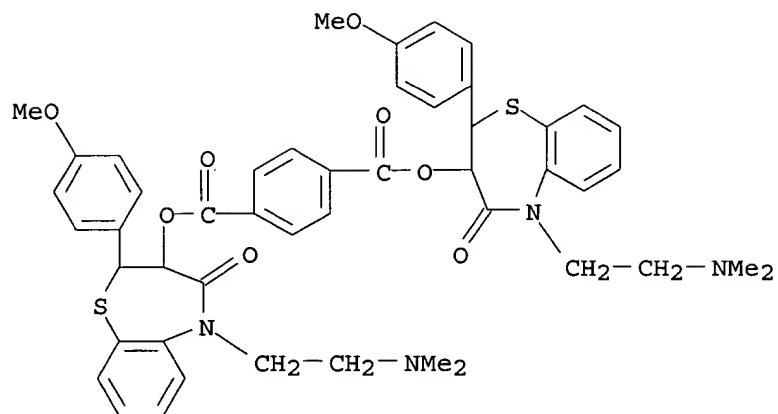
benzothiazepin-3-yl] ester, [2.alpha.,3.alpha.(2R\*,3R\*)]- (9CI) (CA INDEX NAME)



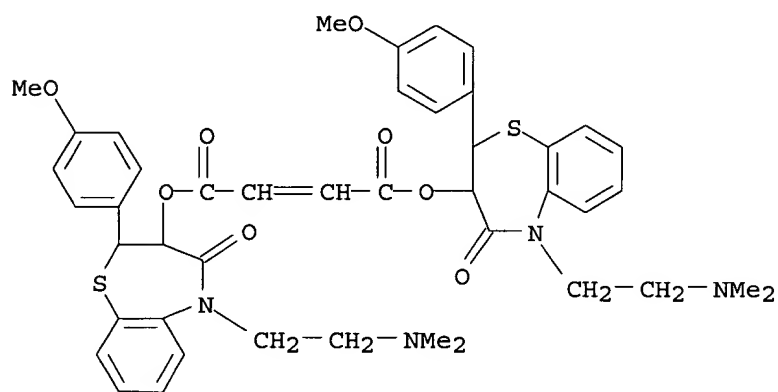
RN 140382-45-2 CAPLUS

CN 1,4-Benzenedicarboxylic acid,

bis[5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,5-benzothiazepin-3-yl] ester, [2.alpha.,3.alpha.(2R\*,3R\*)]- (9CI) (CA INDEX NAME)

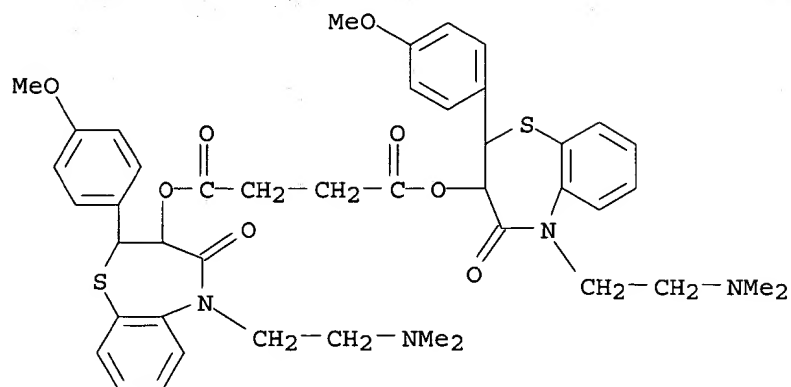


RN 140461-00-3 CAPLUS  
 CN 2-Butenedioic acid (2E)-,  
 bis[(2R,5R)-5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-  
 4-oxo-1,5-benzothiazepin-3-yl] ester, dihydrochloride, rel- (9CI) (CA  
 INDEX NAME)



● 2 HCl

RN 140461-01-4 CAPLUS  
 CN Butanedioic acid,  
 bis[5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,  
 5-  
 benzothiazepin-3-yl] ester, dihydrochloride,  
 [2.alpha.,3.alpha.(2R\*,3R\*)]- (9CI) (CA INDEX NAME)



● 2 HCl

L4 ANSWER 2 OF 2 USPATFULL

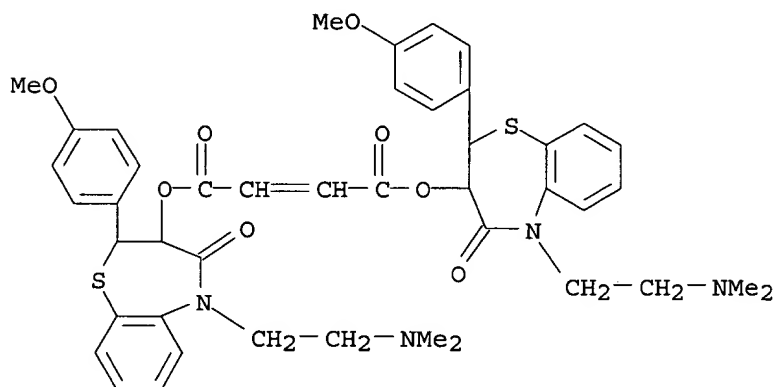
IT 140382-43-0P 140382-44-1P 140382-45-2P 140461-00-3P  
140461-01-4P

(prepn. of, as vasodilator)

RN 140382-43-0 USPATFULL

CN 2-Butenedioic acid (2E)-,

bis[(2R,3R)-5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,5-benzothiazepin-3-yl] ester, rel- (9CI) (CA INDEX NAME)

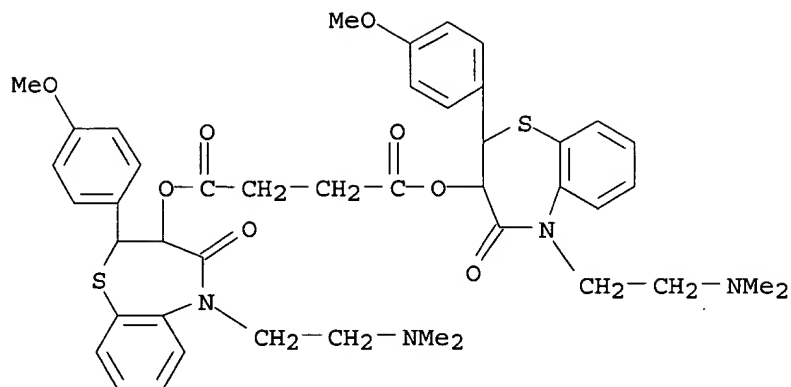


RN 140382-44-1 USPATFULL

CN Butanedioic acid,

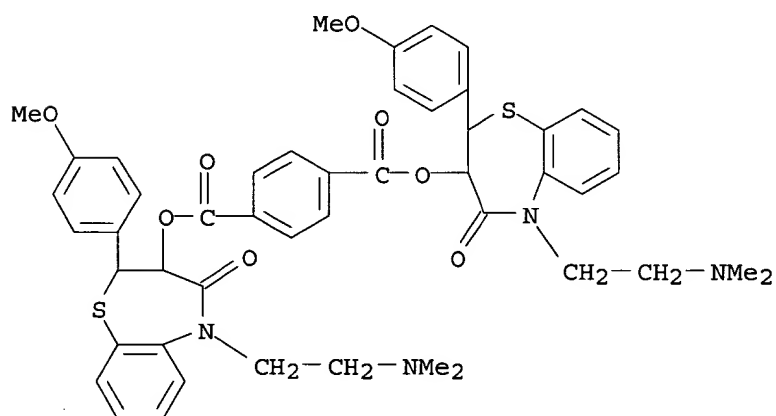
bis[5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,5-

benzothiazepin-3-yl] ester, [2.alpha.,3.alpha.(2R\*,3R\*)]- (9CI) (CA INDEX NAME)



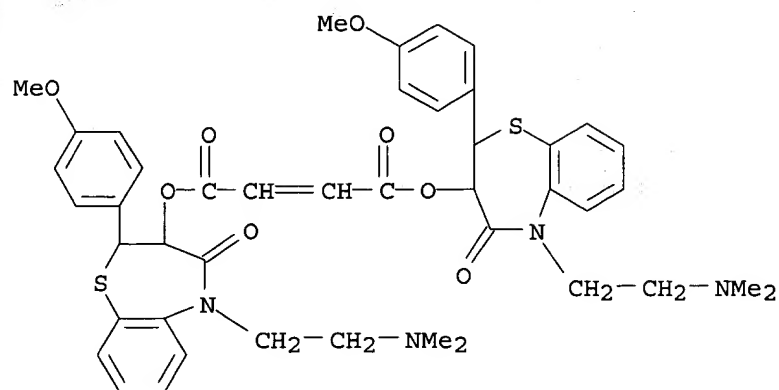
RN 140382-45-2 USPATFULL

CN 1,4-Benzenedicarboxylic acid,  
bis[5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-  
oxo-1,5-benzothiazepin-3-yl] ester, [2.alpha.,3.alpha.(2R\*,3R\*)]-  
(9CI) (CA INDEX NAME)



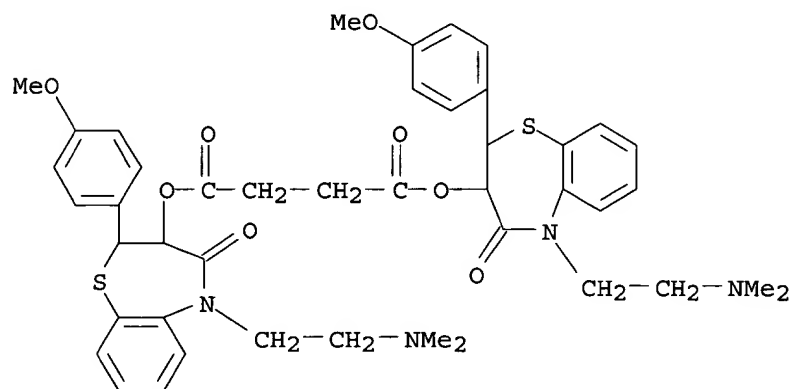
RN 140461-00-3 USPATFULL

CN 2-Butenedioic acid (2E)-,  
bis[(2R,5R)-5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-  
4-oxo-1,5-benzothiazepin-3-yl] ester, dihydrochloride, rel- (9CI) (CA  
INDEX NAME)



●2 HCl

RN 140461-01-4 USPATFULL  
 CN Butanedioic acid,  
 bis[5-[2-(dimethylamino)ethyl]-2,3,4,5-tetrahydro-2-(4-methoxyphenyl)-4-oxo-1,  
 5-  
 benzothiazepin-3-yl] ester, dihydrochloride,  
 [2.alpha.,3.alpha.(2R\*,3R\*)]- (9CI) (CA INDEX NAME)



●2 HCl



updated search

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(FILE 'HOME' ENTERED AT 16:57:15 ON 22 JUL 2002)

\* FILE 'CAPLUS, MEDLINE, BIOSIS, EMBASE, SCISEARCH, USPATFULL' ENTERED AT  
16:57:30 ON 22 JUL 2002

L1 856 S KNORR A?/AU  
L2 106 S L1 AND DIHYDRO?  
L3 73 S L1 AND DIHYDROPYRIDINE  
L4 3 S L3 AND LINK?  
L5 33 S L3 AND DIME?  
L6 1 S L3 AND (DIMER OR DIMERIC)  
L7 46382 S DILTIAZEM  
L8 153 S L7 AND (DIMER OR DIMERIC)  
L9 9 S L7 (P) (DIMER OR DIMERIC)  
L10 4 DUP REM L9 (5 DUPLICATES REMOVED)  
L11 309 S L7 (P) (DVALENT OR BIVALENT OR LINKER)  
L12 29 S L7 (P) ( BIVALENT OR LINKER)  
L13 8 DUP REM L12 (21 DUPLICATES REMOVED)  
L14 322 S L7 (P) ( BIS)

=> log y